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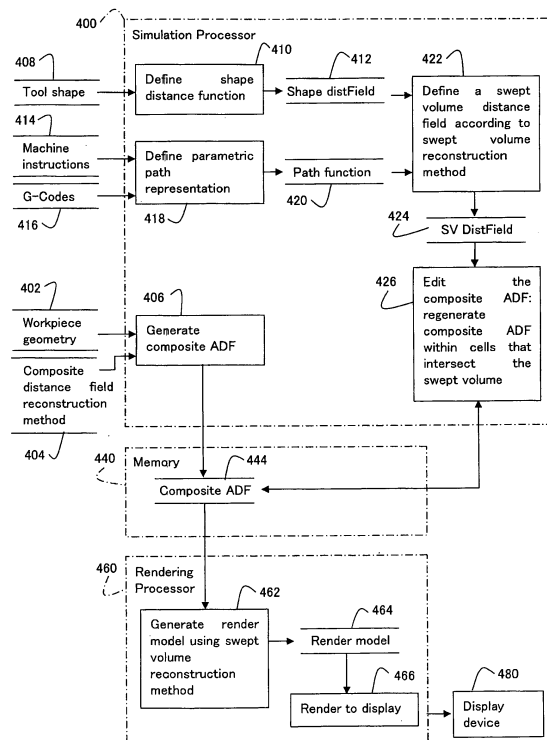
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(54) **Method for reconstructing a distance field of a swept volume at a sample point**

(57) A method performed on a processor reconstructs a distance field of an object at a sample point, where the object is a swept volume generated by moving a shape along a path. The shape is represented by a shape distance field. The path is represented by a parametric function. Distance data at the sample points is determined, where the distance data characterizes the distance field of the object at the sample point. An optimal set of parameters defining an optimal placement of the shape along the path is determined in a continuous manner. The shape distance field is transformed to the optimal placement to produce a transformed shape distance field. The distance data is determined at the sample point from the transformed shape distance field to reconstruct the distance field at the sample point.

Fig. 4





## EUROPEAN SEARCH REPORT

Application Number  
EP 10 00 4659

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	SARAH FRISKEN ET AL: "Adaptively sampled distance fields", PROCEEDINGS OF THE 27TH ANNUAL CONFERENCE ON COMPUTER GRAPHICS AND INTERACTIVE TECHNIQUES, 1 July 2000 (2000-07-01), pages 249-254, XP55170610, DOI: 10.1145/344779.344899 ISBN: 978-1-58-113208-3	1-3, 5-13, 16-19, 21-23	INV. G06T17/00 G06T17/10  ADD. G05B19/18 G05B19/4069 G06F17/50
A	* abstract * * chapter "1. Introduction" * * chapter "2. Background" * * sub-chapter 3.2 * * sub-chapter 3.3 * * sub-chapter 4.3.3 * * sub-chapter 4.3.5 * * figures 1,2 ,5, 6, 7 *	4,14,20, 24-26	
A	RYAN SCHMIDT ET AL: "Generalized sweep templates for implicit modeling", PROCEEDINGS OF THE 3RD INTERNATIONAL CONFERENCE ON COMPUTER GRAPHICS AND INTERACTIVE TECHNIQUES IN AUSTRALASIA AND SOUTH EAST ASIA , GRAPHITE '05, 1 January 2005 (2005-01-01), page 187, XP055205978, New York, New York, USA DOI: 10.1145/1101389.1101428 ISBN: 978-1-59-593201-3 * abstract * * chapters 4 and 4.1 *	1-26	TECHNICAL FIELDS SEARCHED (IPC)  G06F G06T G05B
A	US 2002/130864 A1 (PERRY RONALD N [US] ET AL) 19 September 2002 (2002-09-19) * abstract; figures 1-2, 4-7 *  ----- -/-	1-26	
The present search report has been drawn up for all claims			
Place of search Berlin		Date of completion of the search 3 August 2015	Examiner Vollmann, Karl
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	<p>JONES M W ET AL: "3D distance fields: a survey of techniques and applications", IEEE TRANSACTIONS ON VISUALIZATION AND COMPUTER GRAPHICS, IEEE SERVICE CENTER, LOS ALAMITOS, CA, US, vol. 12, no. 4, 1 July 2006 (2006-07-01), pages 581-599, XP002495660, ISSN: 1077-2626, DOI: 10.1109/TVCG.2006.56</p> <p>* abstract *</p> <p>* chapter 1 *</p> <p>* chapter 2 *</p> <p>* sub-chapter 2.2, *</p> <p>* sub-chapter 5.3.1 *</p> <p>* sub-chapter 5.4.1 *</p> <p>* sub chapter 5.4.4 *</p> <p>-----</p>	1-26	
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The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Berlin		3 August 2015	Vollmann, Karl
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone</p> <p>Y : particularly relevant if combined with another document of the same category</p> <p>A : technological background</p> <p>O : non-written disclosure</p> <p>P : intermediate document</p> <p>T : theory or principle underlying the invention</p> <p>E : earlier patent document, but published on, or after the filing date</p> <p>D : document cited in the application</p> <p>L : document cited for other reasons</p> <p>&amp; : member of the same patent family, corresponding document</p>			

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EP 10 00 4659

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82